ABSTRACT

A liquid crystal shutter comprises a liquid crystal device including a nematic liquid crystal sealed in between a first transparent substrate and a second transparent substrate on whose inner surfaces are formed respective transparent electrodes, the liquid crystal device having a twisted angle equal to or greater than 180°; and a pair of polarizing plates between which are sandwiched the first transparent substrate and the second transparent substrate, the polarizing films having respective absorption axes (13, 14) which are substantially orthogonal to each other, the absorption axes (13, 14) of the polarizing films being angled within a range of $\pm 40°$ to $\pm 50°$ relative to a direction (12) in which intermediate liquid crystal molecules are orientated, the direction indicating a direction of orientation of the liquid crystal in the intermediate portion in the direction of thickness of the liquid crystal device. Alternatively, Δ nd may lie within a range of 600 to 900 nm, Δ nd being the product of a birefringence Δ n of the nematic liquid crystal and a gap d between the first transparent substrate and a second transparent substrate.